

CLAIMS

1. A compound selected from the group consisting of:

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [1];

N-[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-N',N'-dimethyl-benzene-1,4-diamine [2];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-chloro-phenyl)-amine [3];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-methoxy-phenyl)-amine [4];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-fluoro-phenyl)-amine [5];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-trifluoromethyl-phenyl)-amine [7];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-methoxy-phenyl)-amine [8];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-chloro-phenyl)-amine [9];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-iodo-phenyl)-amine [10];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-iodo-phenyl)-amine [11];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-fluoro-phenyl)-amine [12];

3-[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-ylamino]-phenol [13];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-iodo-3-nitro-phenyl)-amine [14];

2-{4-[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-ylamino]-phenyl}-ethanol [15];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-bromo-phenyl)-amine [16];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-bromo-phenyl)-amine [17];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-chloro-3-trifluoromethyl-phenyl)-amine [18];

N¹-[4-(2,4-Dimethyl-thiazol-5-yl)-pyrimidin-2-yl]-4-[β-(phenoxy)-triethylamine]-amine [20];

2-{4-[4-(2,4-Dimethyl-thiazol-5-yl)-pyrimidin-2-ylamino]-phenyl}-ethanol [21];

2-({4-[4-(2,4-Dimethyl-thiazol-5-yl)-pyrimidin-2-ylamino]-phenyl}-ethyl-amino)-ethanol [22];

(3,4-Dimethoxy-phenyl)-[4-(2,4-dimethyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [23];

5-[4-(2,4-Dimethyl-thiazol-5-yl)-pyrimidin-2-ylamino]-2-methoxy-phenol [24];

N⁴-[4-(2,4-Dimethyl-thiazol-5-yl)-pyrimidin-2-yl]-N¹,N¹-dimethyl-2-nitro-benzene-1,4-diamine [25];

2-[N-(4-N,N-Dimethylamino-3-chlorophenyl)]-4-(2,4-dimethylthiazol-5-yl)-pyrimidineamine [26];

N⁴-[4-(2,4-Dimethyl-thiazol-5-yl)-pyrimidin-2-yl]-N¹,N¹-dimethyl-2-trifluoromethyl-benzene-1,4-diamine [27];

N¹-[4-(2,4-Dimethyl-thiazol-5-yl)-pyrimidin-2-yl]-4-methoxy-N³,N³-dimethyl-benzene-1,3-diamine [28];

N,N-Dimethyl-N'-[4-(4-methyl-2-methylamino-thiazol-5-yl)-pyrimidin-2-yl]-benzene-1,4-diamine [29];
 (4-Iodo-3-nitro-phenyl)-[4-(4-methyl-2-methylamino-thiazol-5-yl)-pyrimidin-2-yl]-amine [30];
 4-[4-(2-Methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-ylamino]-phenol [31];
 [4-(2-Methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [32];
 (4-Iodo-phenyl)-[4-(2-methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [33];
 (4-Fluoro-phenyl)-[4-(2-methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [34];
 (4-Chloro-phenyl)-[4-(2-methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [35];
 [4-(2-Methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-methoxy-phenyl)-amine [36];
 3-[4-(2-Methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-ylamino]-phenol [37];
 (4-Fluoro-3-nitro-phenyl)-[4-(2-methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [38];
 (4-Chloro-3-methyl-phenyl)-[4-(2-methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [39];
 (3-Iodo-4-methyl-phenyl)-[4-(2-methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [40];
 (4-Fluoro-3-methyl-phenyl)-[4-(2-methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [41];
 [4-(2-Methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-methyl-3-nitro-phenyl)-amine [42];
 N-[4-(2-Methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-N',N'-dimethyl-benzene-1,4-diamine [43];
 [4-(2-Ethylamino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [44];
 (4-Chloro-phenyl)-[4-(2-ethylamino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [45];
 [4-(2-Ethylamino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-trifluoromethyl-phenyl)-amine [47];
 [4-(2-Ethylamino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-methoxy-phenyl)-amine [48];
 (3-Chloro-phenyl)-[4-(2-ethylamino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [49];
 [4-(2-Ethylamino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-methyl-3-nitro-phenyl)-amine [50];
 [4-(2-Butylamino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-fluoro-phenyl)-amine [51];
 [4-(2-Dimethylamino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [52];
 (4-Chloro-phenyl)-[4-(2-dimethylamino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [53];

[4-(2-Dimethylamino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-fluoro-phenyl)-amine [54];
 (3-Chloro-phenyl)-[4-(2-dimethylamino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [55];
 N-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-yl}-methanesulfonamide [56];
 2-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-ylamino}-ethanol [58];
 2-{5-[2-(4-Fluoro-phenylamino)-pyrimidin-4-yl]-4-methyl-thiazol-2-ylamino}-ethanol [59];
 2-Chloro-N-{4-methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-yl}-acetamide [60];
 2-Chloro-N-{5-[2-(4-fluoro-phenylamino)-pyrimidin-4-yl]-4-methyl-thiazol-2-yl}-acetamide [61];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-nitro-phenyl)-amine [63];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(phenyl)-amine [64];
 4-[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-benzenesulfonic acid [65]; and
 4-[4-(2,4-Dimethyl-thiazol-5-yl)-pyrimidin-2-ylamino]-benzenesulfonic acid [66].

2. A compound according to claim 1, selected from the group consisting of:
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [1];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-chloro-phenyl)-amine [9];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-iodo-phenyl)-amine [10];
 3-[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-ylamino]-phenol [13];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-iodo-3-nitro-phenyl)-amine [14];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-bromo-phenyl)-amine [16];
 (3,4-Dimethoxy-phenyl)-[4-(2,4-dimethyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [23];
 N⁴-[4-(2,4-Dimethyl-thiazol-5-yl)-pyrimidin-2-yl]-N¹,N¹-dimethyl-2-nitro-benzene-1,4-diamine [25];
 2-[N-(4-N,N-Dimethylamino-3-chlorophenyl)]-4-(2,4-dimethylthiazol-5-yl)-pyrimidineamine [26];
 N,N-Dimethyl-N'-[4-(4-methyl-2-methylamino-thiazol-5-yl)-pyrimidin-2-yl]-benzene-1,4-diamine [29];
 4-[4-(2-Methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-ylamino]-phenol [31];
 [4-(2-Methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [32];
 (4-Fluoro-phenyl)-[4-(2-methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [34];
 [4-(2-Methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-methyl-3-nitro-phenyl)-amine [42];

N-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-yl}-methanesulfonamide [56];
2-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-ylamino}-ethanol [58];
2-Chloro-N-{4-methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-yl}-acetamide [60]; and
2-Chloro-N-{5-[2-(4-fluoro-phenylamino)-pyrimidin-4-yl]-4-methyl-thiazol-2-yl}-acetamide [61].

3. A compound according to claim 2, selected from the group consisting of:
3-[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-ylamino]-phenol [13];
[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-iodo-3-nitro-phenyl)-amine [14];
(3,4-Dimethoxy-phenyl)-[4-(2,4-dimethyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [23];
N,N-Dimethyl-N'-[4-(4-methyl-2-methylamino-thiazol-5-yl)-pyrimidin-2-yl]-benzene-1,4-diamine [29];
(4-Fluoro-phenyl)-[4-(2-methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-amine [34];
[4-(2-Methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-methyl-3-nitro-phenyl)-amine [42];
2-Chloro-N-{4-methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-yl}-acetamide [60]; and
2-Chloro-N-{5-[2-(4-fluoro-phenylamino)-pyrimidin-4-yl]-4-methyl-thiazol-2-yl}-acetamide [61].

4. A compound according to claim 2, selected from the following:
[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [1];
[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-chloro-phenyl)-amine [9];
[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-iodo-phenyl)-amine [10];
[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-bromo-phenyl)-amine [16];
N⁴-[4-(2,4-Dimethyl-thiazol-5-yl)-pyrimidin-2-yl]-N¹,N¹-dimethyl-2-nitro-benzene-1,4-diamine [25];
2-[N-(4-N,N-Dimethylamino-3-chlorophenyl)]-4-(2,4-dimethylthiazol-5-yl)-pyrimidineamine [26];
4-[4-(2-Methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-ylamino]-phenol [31];
[4-(2-Methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [32];
N-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-yl}-methanesulfonamide [56]; and
2-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-ylamino}-ethanol [58].

5. The compound of claim 4, wherein said compound is [4-(2-Methoxy-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [32] or 2-{4-Methyl-5-[2-(3-nitro-phenyl amino)-pyrimidin-4-yl]-thiazol-2-ylamino}-ethanol [58].

6. A compound selected from the group consisting of:

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [1];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-trifluoromethyl-phenyl)-amine [7];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-methoxy-phenyl)-amine [8];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-chloro-phenyl)-amine [9];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-iodo-phenyl)-amine [10];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-iodo-phenyl)-amine [11];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-fluoro-phenyl)-amine [12];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-bromo-phenyl)-amine [16];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-bromo-phenyl)-amine [17];
 N-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-yl}-methanesulfonamide [56];
 2-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-ylamino}-ethanol [58];
 2-{5-[2-(4-Fluoro-phenylamino)-pyrimidin-4-yl]-4-methyl-thiazol-2-ylamino}-ethanol [59];
 2-Chloro-N-{4-methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-yl}-acetamide [60];
 2-Chloro-N-{5-[2-(4-fluoro-phenylamino)-pyrimidin-4-yl]-4-methyl-thiazol-2-yl}-acetamide [61];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(4-nitro-phenyl)-amine [63];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(phenyl)-amine [64];
 4-[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-benzenesulfonic acid [65]; and
 4-[4-(2,4-Dimethyl-thiazol-5-yl)-pyrimidin-2-ylamino]-benzenesulfonic acid [66].

7. A compound according to claim 6 selected from the group consisting of:

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [1];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-chloro-phenyl)-amine [9];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-iodo-phenyl)-amine [10];
 [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-bromo-phenyl)-amine [16];
 N-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-yl}-methanesulfonamide [56];

2-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-ylamino}-ethanol [58];

2-Chloro-N-{4-methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-yl}-acetamide [60]; and

2-Chloro-N-{5-[2-(4-fluoro-phenylamino)-pyrimidin-4-yl]-4-methyl-thiazol-2-yl}-acetamide [61].

8. A compound according to claim 7 which is selected from the group consisting of 2-Chloro-N-{4-methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-yl}-acetamide [60]; and

2-Chloro-N-{5-[2-(4-fluoro-phenylamino)-pyrimidin-4-yl]-4-methyl-thiazol-2-yl}-acetamide [61].

9. A compound according to claim 7 which is selected from the group consisting of:

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [1];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-chloro-phenyl)-amine [9];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-iodo-phenyl)-amine [10];

[4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-bromo-phenyl)-amine [16];

N-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-yl}-methanesulfonamide [56]; and

2-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-ylamino}-ethanol [58].

10. A compound according to claim 9 which is selected from the group consisting of:

[4-(2-amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [1];

N-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-yl}-methanesulfonamide [56]; and

2-{4-Methyl-5-[2-(3-nitro-phenylamino)-pyrimidin-4-yl]-thiazol-2-ylamino}-ethanol [58].

11. A compound according to claim 9 which is [4-(2-Amino-4-methyl-thiazol-5-yl)-pyrimidin-2-yl]-(3-nitro-phenyl)-amine [1].

12. A pharmaceutical composition comprising a compound according to claim 1 or 6, or a pharmaceutically acceptable salt thereof, together with a pharmaceutically acceptable diluent, excipient or carrier.

13. A pharmaceutical composition according to claim 12 which further comprises one or more other anticancer agents.
14. A method for treating a proliferative disorder in a subject, comprising administering one or more compound of claim 1 or 6, or a pharmaceutically acceptable salt thereof, to a subject, such that the subject is treated for a proliferative disorder.
15. The method of claim 14, wherein the proliferative disorder is cancer or leukaemia.
16. The method of claim 14, wherein said one or more compounds are administered in an amount sufficient to inhibit at least one CDK enzyme.
17. The method of claim 16 wherein the CDK enzyme is CDK2 or CDK4.
18. Use of a compound according to claim 1 or 6, or a pharmaceutically acceptable salt thereof, in the preparation of a medicament for use in the treatment of a proliferative disorder.
19. Use according to claim 18 wherein said compound is administered in combination with one or more other anticancer agents.